10

SEQUENCE LISTING

<110> Mansfield, Gary S.
Mitchell, Lloyd G.
Garcia-Blanco, Mariano A.
Walsh, Christopher E.
Chao, Hengjun

<120> METHODS AND COMPOSITIONS FOR USE IN SPLICEOSOME MEDIATED RNA TRANS-SPLICING

<130> A31304-BAD 072874.01

<140> 09/838,858
<141> 2001-04-20

<150> 09/756,096
<151> 2001-02-08

<150> 09/158,863
<151> 1998-09-23

<150> 09/133,717
<151> 1998-08-13

<150> 09/087,233
<151> 1998-05-28

<150> 08/766,354
<151> 1996-12-13

<150> 60/008,317
<151> 1995-12-15

<160> 113

<170> FastSEQ for Windows Version 4.0

<210> 1
<211> 132
<212> DNA
<213> Homo sapien

<400> 1
caggggacgc accaaggatg gagatgttcc agggcgctga tgatgttgtt gattcttctt 60
aaatcttttg tgatggaaaa cttttcttcg taccacggga ctaaacctgg ttatgtagat 120
tccattcaaa aa 132

<210> 2
<211> 29
<212> DNA
<213> Corynebacterium diptheriae

<400> 2
ggcgctgcag ggcgctgatg atgttgttg 29

<210> 3
<211> 36
<212> DNA
<213> Corynebacterium diptheriae

<400> 3
ggcgaagctt ggatccgaca cgatttcctg cacagg 36

<210> 4
<211> 68
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide primer

<400> 4
aattctctag atgcttcacc cgggcctgac tcgagtacta actggtacct cttctttttt 60
ttcctgca 68

<210> 5
<211> 60
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide primer

<400> 5
ggaaaaaaaa gaagaggtac cagttagtac tcgagtcagg cccgggtgaa gcatctagag 60

<210> 6
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide primer

<400> 6
tcgagcaacg ttataataat gttc 24

<210> 7
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide primer

<400> 7
tcgagaacat tattataacg ttgc 24

<210> 8
<211> 35
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide primer

<400> 8
aattctctag atcaggcccg ggtgaagcac tcgag 35

<210> 9
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide primer

<400> 9
tgcttcaccc gggcctgatc tagag 25

<210> 10
<211> 18
<212> DNA
<213> Homo sapien

<400> 10
tgcttcaccc gggcctga 18

<210> 11
<211> 16
<212> DNA
<213> Homo sapien

<400> 11
ctcttctttt ttttcc 16

<210> 12
<211> 18
<212> DNA
<213> Homo sapien

<400> 12
caacgttata ataatgtt 18

<210> 13
<211> 16
<212> DNA
<213> Homo sapien

<400> 13
ctgtgattaa tagcgg 16

<210> 14
<211> 16
<212> DNA
<213> Homo sapien

<400> 14
cctggacgcg gaagtt 16

<210> 15
<211> 51
<212> DNA
<213> Homo sapien

<400> 15
ctgggacaag gacactgctt cacccggtta gtagaccaca gccctgaagc c 51

<210> 16
<211> 17
<212> DNA
<213> Homo sapien

<400> 16
cttctgtttt ttttctc 17

<210> 17
<211> 16
<212> DNA
<213> Homo sapien

<400> 17
cttctgtatt attctc 16

<210> 18
<211> 16

<212> DNA
<213> Homo sapien

<400> 18
gttctgtcct tgtctc 16

<210> 19
<211> 29
<212> DNA
<213> Corynebacterium diptheriae

<400> 19
ggcgctgcag ggcgctgatg atgttgttg 29

<210> 20
<211> 36
<212> DNA
<213> Corynebacterium diptheriae

<400> 20
ggcgaagctt ggatccgaca cgatttcctg cacagg 36

<210> 21
<211> 21
<212> DNA
<213> Corynebacterium diptheriae

<400> 21
catcgtcata atttccttgt g 21

<210> 22
<211> 20
<212> DNA
<213> Corynebacterium diptheriae

<400> 22
atggaatcta cataaccagg 20

<210> 23
<211> 20
<212> DNA
<213> Corynebacterium diptheriae

<400> 23
gaaggctgag cactacacgc 20

<210> 24
<211> 20
<212> DNA
<213> Homo sapien

<400> 24
cggcaccgtg gccgaagtgg 20

<210> 25
<211> 30
<212> DNA
<213> Homo sapien

<400> 25
accggaattc atgaagccag gtacaccagg 30

<210> 26
<211> 20
<212> DNA
<213> Homo sapien

<400> 26
gggcaaggtg aacgtggatg 20

<210> 27
<211> 19
<212> DNA
<213> Homo sapien

<400> 27
atcaggagtg gacagatcc 19

<210> 28
<211> 39
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide primer

<400> 28
gcatgaattc ggtaccatgg gggggttctc atcatcatc 39

<210> 29
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide primer

<400> 29
ctgaggatcc tcttacctgt aaacgcccat actgac 36

<210> 30
<211> 38
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide primer

<400> 30
gcatggtaac cctgcagggc ggcttcgtct gggactgg 38

<210> 31
<211> 38
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide primer

<400> 31
ctgaaagctt gttaacttat tatttttgac accagacc 38

<210> 32
<211> 47
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide primer

<400> 32
gcatggtaac cctgcagggc ggcttcgtct aataatggga ctgggtg 47

<210> 33
<211> 37
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide primer

<400> 33
gcatggatcc tccggagggc ccctgggcac cttccac 37

<210> 34
<211> 38
<212> DNA
<213> Artificial Sequence

<220>

<223> Oligonucleotide primer

<400> 34
ctgactgcag ggtaaccgga caaggacact gcttcacc 38

<210> 35
<211> 35
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide primer

<400> 35
gcatggtaac cctgcagggg ctgctgctgt tgctg 35

<210> 36
<211> 37
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide primer

<400> 36
ctgaaagctt gttaaccagc tcaccatggt ggggcag 37

<210> 37
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide primer

<400> 37
ggctttcgct acctggagag ac 22

<210> 38
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide primer

<400> 38
gctggatgcg gcgtgcggtc g 21

<210> 39

<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide primer

<400> 39
cggcaccgtg gccgaagtgg 20

<210> 40
<211> 45
<212> DNA
<213> Homo sapien

<400> 40
acctgggccc acccattatt aggtcattat ccgcggaaca ttata 45

<210> 41
<211> 35
<212> DNA
<213> Homo sapien

<400> 41
acctctgcag gtgaccctgc aggaaaaaaa agaag 35

<210> 42
<211> 30
<212> DNA
<213> Homo sapien

<400> 42
acctctgcag acttcacttc taatgatgat 30

<210> 43
<211> 51
<212> DNA
<213> Homo sapien

<400> 43
acctgcggcc gcctaatgat gatgatgatg atgctcttct agttggcatg c 51

<210> 44
<211> 32
<212> DNA
<213> Homo sapien

<400> 44
gacctctcga gggatttggg gaattatttg ag 32

<210> 45
<211> 35
<212> DNA
<213> Homo sapien

<400> 45
ctgacctgcg gccgctacag tgttgaatgt ggtgc 35

<210> 46
<211> 35
<212> DNA
<213> Homo sapien

<400> 46
ctgacctgcg gccgcccaac tatctgaatc atgtg 35

<210> 47
<211> 32
<212> DNA
<213> Homo sapien

<400> 47
gacctcttaa gtagactaac cgattgaata tg 32

<210> 48
<211> 21
<212> DNA
<213> Homo sapien

<400> 48
ctaatgatga tgatgatgat g 21

<210> 49
<211> 21
<212> DNA
<213> Homo sapien

<400> 49
cgcctaatga tgatgatgat g 21

<210> 50
<211> 21
<212> DNA
<213> Homo sapien

<400> 50
cttcttggta ctcctgtcct g 21

<210> 51
<211> 32

<212> DNA
<213> Homo sapien

<400> 51
gacctctcga gggatttggg gaattatttg ag 32

<210> 52
<211> 21
<212> DNA
<213> Homo sapien

<400> 52
aactagaagg cacagtcgag g 21

<210> 53
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Trans-spliced product containing humanchorionic gonadotropin gene 6 sequences and Corynebacterium diptheriae toxin A sequence

<400> 53
gagatgttcc agggcgtgat gatg 24

<210> 54
<211> 127
<212> RNA
<213> Artificial Sequence

<220>
<223> PTM intramolecular base paired stem

<221> unsure
<222> (57)...(70)
<223> A, C, G or U

<221> misc_feature
<222> (57)...(70)
<223> Loop comprising a combination of 14 nucleotides

<400> 54
gcuagccugg gacaaggaca cugcuucacc cgguuaguag accacagccc ugagccnnnn 60
nnnnnnnnnn aucguuaacu aauaaacuac uaacugggug aacuucuguu uuuuucucga 120
gcugcag 127

<210> 55
<211> 127

<212> RNA
<213> Artificial Sequence

<220>
<223> PTM intramolecular base paired stem

<221> unsure
<222> (57)...(70)
<223> A, C, G or U

<221> misc_feature
<222> (57)...(70)
<223> Loop comprising a combination of 14 nucleotides

<400> 55
gcuagccugg gacaaggaca cugcuucacc cgguuaguag accacagccc ugagccnnnn 60
nnnnnnnnnn aucguuaacu aauaaacuac uaacugggug aacuucugua uuauucucga 120
gcugcag 127

<210> 56
<211> 127
<212> RNA
<213> Artificial Sequence

<220>
<223> PTM intramolecular base paired stem

<221> unsure
<222> (57)...(70)
<223> A, C, G or U

<221> misc_feature
<222> (57)...(70)
<223> Loop comprising a combination of 14 nucleotides

<400> 56
gcuagccugg gacaaggaca cugcuucacc cgguuaguag accacagccc ugagccnnnn 60
nnnnnnnnnn aucguuaacu aauaaacuac uaacugggug aaguucuguc cuugucucga 120
gcugcag 127

<210> 57
<211> 132
<212> DNA
<213> Artificial Sequence

<220>
<223> Trans-spliced product containing human chorionic
gonadotropin gene 6 sequences and Corynebacterium
diptheriae diptheria toxin A sequences

<400> 57
caggggacgc accaaggatg gagatgttcc agggcgctga tgatgttgtt gattcttctt 60
aaatcttttg tgatggaaaa cttttcttcg taccacggga ctaaacctgg ttatgtagat 120
tccattcaaa aa 132

<210> 58
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial Sequence derived from Escherichia coli
lacZ gene

<400> 58
gaattcggta ccatgggg 18

<210> 59
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial Sequence derived from Escherichia coli
lacZ gene

<400> 59
cgtttacagg taagaggatc ctccggaggg ccc 33

<210> 60
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial Sequence derived from Escherichia coli
lacZ gene

<400> 60
tggtgtcaaa aataataagt taacaagctt 30

<210> 61
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Trans-spliced product containing Escherichia coli
lacZ gene sequences and human chorionic
gonadotropin gene 6 exon 2 sequences

<400> 61
cagcagcccc tgtaaacggg gatac 25

<210> 62
<211> 286
<212> DNA
<213> Artificial Sequence

<220>
<223> Trans-spliced product containing Escherichia coli
lacZ gene sequences

<400> 62
ggctttcgct acctggagag acgcgcccgc tgatcctttg cgaatacgcc cacgcgatgg 60
gtaacagtct tggcggtttc gctaaatact ggcaggcgtt tcgtcagtat ccccgtttac 120
agggcggctt cgtctaataa tgggactggg tggatcagtc gctgattaaa tatgatgaaa 180
acgggcaacc cgtggtcggc ttacggcggt gattttggcg atacgccgaa cgatcgccag 240
ttctgtatga acggtctggt ctttgccgac cgcacgccgc atccag 286

<210> 63
<211> 196
<212> DNA
<213> Artificial Sequence

<220>
<223> Trans-spliced product containing Escherichia coli
lacZ gene sequences

<400> 63
ggctttcgct acctggagag acgcgcccgc tgatcctttg cgaatacgcc cacgcgatgg 60
gtaacagtct tggcggtttc gctaaatact ggcaggcgtt tcgtcagtat ccccgtttac 120
aggggctgct gctgttgctg ctgctgagca tgggcgggac atgggcatcc aaggagccac 180
ttcggccacg gtgccg 196

<210> 64
<211> 420
<212> DNA
<213> Artificial Sequence

<220>
<223> Trans-spliced product containing cystic fibrosis
transmembrane regulator-derived sequences and
His-tag sequence

<400> 64
gctagcgttt aaacgggccg acccatcatt attaggtcat tatccgcgga acattattat 60
aacgttgctc gagtactaac tggaacctct tctttttttt cctgcagact tcacttctaa 120
tgatgattat gggagaactg gagccttcag agggtaaaat taagcacagt ggaagaattt 180
cattctgttc tcagttttcc tggattatgc ctggcaccat taaagaaaat atcatctttg 240

gcggccgcca ctgtgctgga tatctgcaga attccaccac actggactag tggatccgag 300
ctcggtacca aggttaagtt taaaccgctg atcagcctcg actgtgcctt ctagttgcca 360
gccatctgtt gtttgccccc cccccgtgcc ttccttgacc ctggaaggtg ccactcccac 420

<210> 65
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Splice junction sequence

<400> 65
atgttccagg gcgtgatgat 20

<210> 66
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> C terminal residus from glutathione-S- tranferase

<400> 66
Asp Tyr Lys Asp Asp Asp Lys
1 5

<210> 67
<211> 15
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence comprising sequences derived
from Esherichia coli lacZ gene sequences

<400> 67
ggagttgatc ccgtc 15

<210> 68
<211> 37
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence comprising sequences derived
from Esherichia coli lacZ gene sequences

<400> 68
gcagtgtcct tgtgcggtta ccctgcaggg cggcttc 37

<210> 69
<211> 120
<212> DNA
<213> Artificial Sequence

<220>
<223> Binding domain of PTM

<400> 69
gattcacttg ctccaattat catcctaagc agaagtgtat attcttattt gtaaagattc 60
tattaactca tttgattcaa aatatttaaa atacttcctg tttcatactc tgctatgcac 120

<210> 70
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Spacer sequence of PTM

<400> 70
aacattatta taacgttgct cgaa 24

<210> 71
<211> 47
<212> DNA
<213> Artificial Sequence

<220>
<223> Branch point, pyrimidine tract and acceptor splice
site of PTM

<400> 71
tactaactgg tacctcttct tttttttttg atatcctgca gggcggc 47

<210> 72
<211> 70
<212> DNA
<213> Artificial Sequence

<220>
<223> Donor site and spacer sequence of PTM

<400> 72
tgaacggtaa gtgttatcac cgatatgtgt ctaacctgat tcgggccttc gatacgctaa 60
gatccaccgg 70

<210> 73
<211> 260
<212> DNA
<213> Artificial Sequence

<220>
<223> Binding domain of spacer sequence

<400> 73
tcaaaaagtt ttcacataat ttcttacctc ttcttgaatt catgctttga tgacgcttct 60
gtatctatat tcatcattgg aaacaccaat gatttttctt taatggtgcc tggcataatc 120
ctggaaaact gataacacaa tgaaattctt ccactgtgct taaaaaaacc ctcttgaatt 180
ctccatttct cccataatca tcattacaac tgaactctgg aaataaaacc catcattatt 240
aactcattat caaatcacgc 260

<210> 74
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide primer

<400> 74
cgctggaaaa acgagcttgt tg 22

<210> 75
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide

<400> 75
actcagtgtg attccacctt ctc 23

<210> 76
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide

<400> 76
gacctctgca gacttcactt ctaatgatga ttatgg 36

<210> 77

<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide primer

<400> 77
ctaggatccc gttcttttgt tcttcactat taa 33

<210> 78
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide primer

<400> 78
ctagggttac cgaagtaaaa ccatacttat tag 33

<210> 79
<211> 35
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide primer

<400> 79
gcatggttac cctgcagggg ctgctgctgt tgctg 35

<210> 80
<211> 37
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide primer

<400> 80
ctgaaagctt gttaaccagc tcaccatggt ggggcag 37

<210> 81
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Binding domain of PTM molecule

<400> 81
acccatcatt attaggtcat tat 23

<210> 82
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide primer

<400> 82
gatcaaatct gtcgatcctt cc 22

<210> 83
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide primer

<400> 83
ctgatccacc cagtcccatt a 21

<210> 84
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide primer

<400> 84
gactgatcca cccagtccca ga 22

<210> 85
<211> 52
<212> DNA
<213> Artificial Sequence

<220>
<223> Random sequence inserted to replace the 3' splice site.

<221> misc_feature
<222> (7)...(30)
<223> Spacer sequence, see SEQ ID NO: 70

<221> unsure
<222> (7)...(30)
<223> A, C, G or T

<400> 85
ccgcggnnnn nnnnnnnnnn nnnnnnnnnn gggttccggt accggcggct tc 52

<210> 86
<211> 71
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide

<400> 86
ttttatcccc gtttacaggg cggcttcgtc tgggactggg tggatcagtc gctgattaaa 60
tatgatgaaa a 71

<210> 87
<211> 66
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide

<400> 87
tttggcgata cgccgaacga tcgccagttc tgtatgaacg gtctggtctt tgccgaccgc 60
acgccg 66

<210> 88
<211> 192
<212> DNA
<213> Artificial Sequence

<220>
<223> PTM sequence

<400> 88
acgagcttgc tcatgatgat catgggcgag ttagaaccaa gtgaaggcaa gatcaaacat 60
tccggccgca tcagcttttg cagccaattc agttggatca tgcccggtac catcaaggag 120
aacataatct tcggcgtcag ttacgacgag taccgctatc gctcggtgat taaggcctgt 180
cagttggagg ag 192

<210> 89
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide

<400> 89
gagcaggcaa gacgagcttg ctcat 25

<210> 90
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide

<400> 90
gagaacataa tcttcggcgt cagttacg 28

<210> 91
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide

<400> 91
gtcagttgga ggaggacatc tccaagtttg 30

<210> 92
<211> 192
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide

<400> 92
acgagcttgc tcatgatgat catgggcgag ttagaaccaa gtgaaggcaa gatcaaacat 60
tccggccgca tcagcttttg cagccaattc agttggatca tgcccggtac catcaaggag 120
aacataatct tcggcgtcag ttacgacgag taccgctatc gctcggtgat taaggcctgt 180
cagttggagg ag 192

<210> 93
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> PTM sequences

<400> 93
aaatatcatt ggtgtttctt atgatga 27

<210> 94
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide

<400> 94
ccaactagaa gaggacatct ccaagtttgc 30

<210> 95
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide

<400> 95
atgatcatgg gcgagttaga accaagtgag 30

<210> 96
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide

<400> 96
aaaatatcat ctttggtgtt tcctatg 27

<210> 97
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide

<400> 97
ccaactagaa gaggacatct ccaagtt 27

<210> 98
<211> 21
<212> DNA

<213> Artificial Sequence

<220>
<223> 5' splice site

<400> 98
cgtttacagg taagtggatc c 21

<210> 99
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> 3' splice site

<400> 99
ctgcagggcg gcttcgtcta ataatgg 27

<210> 100
<211> 65
<212> DNA
<213> Artificial Sequence

<220>
<223> Sequence from trans-splicing domain

<221> unsure
<222> (7)...(18)
<223> A, C, G or T

<400> 100
gctagcnnnc cgcggnnnta ctaactggta cctcttcttt ttttttgat atcctgcagg 60
gcggc 65

<210> 101
<211> 1584
<212> DNA
<213> Artificial Sequence

<220>
<223> CFTR PTM

<400> 101
atgcagaggt cgcctctgga aaaggccagc gttgtctcca acttttttt cagctggacc 60
agaccaattt tgaggaaagg atacagacag cgcctggaat tgtcagacat ataccaaatc 120
ccttctgttg attctgctga caatctatct gaaaaattgg aaagagaatg ggatagagag 180
ctggcttcaa agaaaaatcc taaactcatt aatgcccttc ggcgatgttt tttctggaga 240
tttatgttct atggaatctt tttatattta ggggaagtca ccaaagcagt acagcctctc 300
ttactgggaa gaatcatagc ttcctatgac ccggataaca aggaggaacg ctctatcgcg 360

atttatctag gcataggctt atgccttctc tttattgtga ggacactgct cctacaccca 420
gccatttttg gccttcatca cattggaatg cagatgagaa tagctatgtt tagtttgatt 480
tataagaaga ctttaaagct gtcaagccgt gttctagata aaataagtat tggacaactt 540
gttagtctcc tttccaacaa cctgaacaaa tttgatgaag gacttgcatt ggcacatttc 600
gtgtggatcg ctcctttgca agtggcactc ctcatggggc taatctggga gttgttacag 660
gcgtctgcct tctgtggact tggtttcctg atagtccttg cccttttca ggctgggcta 720
gggagaatga tgatgaagta cagagatcag agagctggga agatcagtga aagacttgtg 780
attacctcag aaatgatcga gaacatccaa tctgttaagg catactgctg ggaagaagca 840
atggaaaaaa tgattgaaaa cttaagacaa acagaactga aactgactcg gaaggcagcc 900
tatgtgagat acttcaatag ctcagccttc ttcttctcag ggttctttgt ggtgttttta 960
tctgtgcttc cctatgcact aatcaaagga atcatcctcc ggaaaatatt caccaccatc 1020
tcattctgca ttgttctgcg catggcggtc actcggcaat ttccctgggc tgtacaaaca 1080
tggtatgact ctcttggagc aataaacaaa atacaggatt tcttacaaaa gcaagaatat 1140
aagacattgg aatataactt aacgactaca gaagtagtga tggagaatgt aacagccttc 1200
tgggaggagg gatttgggga attatttgag aaagcaaaac aaaacaataa caatagaaaa 1260
acttctaatg gtgatgacag cctcttcttc agtaatttct cacttcttgg tactcctgtc 1320
ctgaaagata ttaatttcaa gatagaaaga ggacagttgt tggcggttgc tggatccact 1380
ggagcaggca agacgagctt gctcatgatg atcatgggcg agttagaacc aagtgaaggc 1440
aagatcaaac attccggccg catcagcttt tgcagccaat tcagttggat catgcccggt 1500
accatcaagg agaacataat cttcggcgtc agttacgacg agtaccgcta tcgctcggtg 1560
attaaggcct gtcagttgga ggag 1584

<210> 102
<211> 323
<212> DNA
<213> Artificial Sequence

<220>
<223> Trans-splicing domain of CFTR PTM

<400> 102
gtaagatatc accgatatgt gtctaacctg attcgggcct tcgatacgct aagatccacc 60
ggtcaaaaag ttttcacata atttcttacc tcttcttgaa ttcatgcttt gatgacgctt 120
ctgtatctat attcatcatt ggaaacacca atgatatttt ctttaatggt gcctggcata 180
atcctggaaa actgataaca caatgaaatt cttccactgt gcttaatttt accctctgaa 240
ttctccattt ctcccataat catcattaca actgaactct ggaaataaaa cccatcatta 300
ttaactcatt atcaaatcac gct 323

<210> 103
<211> 165
<212> DNA
<213> Artificial Sequence

<220>
<223> PTM binding domain

<400> 103
gctagcaata atgacgaagc cgcccctcac gctcaggatt cacttgcctc caattatcat 60
cctaagcaga agtgtatatt cttatttgta aagattctat taactcattt gattcaaaat 120
atttaaaata cttcctgttt cacctactct gctatgcacc cgcgg 165

<210> 104
<211> 225
<212> DNA
<213> Artificial Sequence

<220>
<223> Trans-splicing domain of PTM

<400> 104
aataatgacg aagccgcccc tcacgctcag gattcacttg ccctccaatt atcatcctaa 60
gcagaagtgt atattcttat ttgtaaagat tctattaact catttgattc aaaatattta 120
aaatacttcc tgtttcacct actctgctat gcacccgcgg aacattatta taacgttgct 180
cgaatactaa ctggtacctc ttcttttttt tttgatatcc tgcag 225

<210> 105
<211> 3069
<212> DNA
<213> Artificial Sequence

<220>
<223> CFTR PTM sequence

<400> 105
acttcacttc taatgatgat tatgggagaa ctggagcctt cagagggtaa aattaagcac 60
agtggaagaa tttcattctg ttctcagttt tcctggatta tgcctggcac cattaaagaa 120
aatatcatct ttggtgtttc ctatgatgaa tatagataca gaagcgtcat caaagcatgc 180
caactagaag aggacatctc caagtttgca gagaaagaca atatagttct tggagaaggt 240
ggaatcacac tgagtggagg tcaacgagca agaatttctt tagcaagagc agtatacaaa 300
gatgctgatt tgtatttatt agactctcct tttggatacc tagatgtttt aacagaaaaa 360
gaaatatttg aaagctgtgt ctgtaaactg atggctaaca aaactaggat tttggtcact 420
tctaaaatgg aacatttaaa gaaagctgac aaaatattaa ttttgcatga aggtagcagc 480
tatttttatg ggacattttc agaactccaa aatctacagc cagactttag ctcaaaactc 540
atgggatgtg attctttcga ccaatttagt gcagaaagaa gaaattcaat cctaactgag 600
accttacacc gtttctcatt agaaggagat gctcctgtct cctggacaga aacaaaaaaa 660
caatctttta aacagactgg agagtttggg gaaaaaagga agaattctat tctcaatcca 720
atcaactcta tacgaaaatt ttccattgtg caaaagactc ccttacaaat gaatggcatc 780
gaagaggatt ctgatgagcc tttagagaga aggctgtcct tagtaccaga ttctgagcag 840
ggagaggcga tactgcctcg catcagcgtg atcagcactg gccccacgct tcaggcacga 900
aggaggcagt ctgtcctgaa cctgatgaca cactcagtta accaaggtca gaacattcac 960
cgaaagacaa cagcatccac acgaaaagtg tcactggccc ctcaggcaaa cttgactgaa 1020
ctggatatat attcaagaag gttatctcaa gaaactggct tggaaataag tgaagaaatt 1080
aacgaagaag acttaaagga gtgctttttt gatgatatgg agagcatacc agcagtgact 1140
acatggaaca catacettcg atatattact gtccacaaga gcttaatttt tgtgctaatt 1200
tggtgcttag taatttttct ggcagaggtg gctgcttctt tggttgtgct gtggctcctt 1260
ggaaacactc ctcttcaaga caaagggaat agtactcata gtagaaataa cagctatgca 1320
gtgattatca ccagcaccag ttcgtattat gtgttttaca tttacgtggg agtagccgac 1380
actttgcttg ctatgggatt cttcagaggt ctaccactgg tgcatactct aatcacagtg 1440
tcgaaaattt tacaccacaa aatgttacat tctgttcttc aagcacctat gtcaaccctc 1500
aacacgttga aagcaggtgg gattcttaat agattctcca aagatatagc aattttggat 1560

gaccttctgc ctcttaccat atttgacttc atccagttgt tattaattgt gattggagct 1620
atagcagttg tcgcagtttt acaaccctac atctttgttg caacagtgcc agtgatagtg 1680
gcttttatta tgttgagagc atatttcctc caaacctcac agcaactcaa acaactggaa 1740
tctgaaggca ggagtccaat tttcactcat cttgttacaa gcttaaaagg actatggaca 1800
cttcgtgcct tcggacggca gccttacttt gaaactctgt tccacaaagc tctgaattta 1860
catactgcca actggttctt gtacctgtca acactgcgct ggttccaaat gagaatagaa 1920
atgattttg tcatcttctt cattgctgtt accttcattt ccattttaac aacaggagaa 1980
ggagaaggaa gagttggtat tatcctgact ttagccatga atatcatgag tacattgcag 2040
tgggctgtaa actccagcat agatgtggat agcttgatgc gatctgtgag ccgagtcttt 2100
aagttcattg acatgccaac agaaggtaaa cctaccaagt caaccaaacc atacaagaat 2160
ggccaactct cgaaagttat gattattgag aattcacacg tgaagaaaga tgacatctgg 2220
ccctcagggg gccaaatgac tgtcaaagat ctcacagcaa aatacacaga aggtggaaat 2280
gccatattag agaacatttc cttctcaata agtcctggcc agagggtggg cctcttggga 2340
agaactggat cagggaagag tactttgtta tcagcttttt tgagactact gaacactgaa 2400
ggagaaatcc agatcgatgg tgtgtcttgg gattcaataa ctttgcaaca gtggaggaaa 2460
gcctttggag tgataccaca gaaagtattt atttttctg gaacatttag aaaaaacttg 2520
gatccctatg aacagtggag tgatcaagaa atatggaaag ttgcagatga ggttgggctc 2580
agatctgtga tagaacagtt tcctgggaag cttgactttg tccttgtgga tgggggctgt 2640
gtcctaagcc atggccacaa gcagttgatg tgcttggcta gatctgttct cagtaaggcg 2700
aagatcttgc tgcttgatga acccagtgct catttggatc cagtaacata ccaaataatt 2760
agaagaactc taaaacaagc atttgctgat tgcacagtaa ttctctgtga acacaggata 2820
gaagcaatgc tggaatgcca acaattttg gtcatagaag agaacaaagt gcggcagtac 2880
gattccatcc agaaactgct gaacgagagg agcctcttcc ggcaagccat cagcccctcc 2940
gacagggtga agctctttcc ccaccggaac tcaagcaagt gcaagtctaa gccccagatt 3000
gctgctctga aagaggagac agaagaagag gtgcaagata caaggcttca tcatcatcat 3060
catcattag 3069

<210> 106
<211> 131
<212> DNA
<213> Artificial Sequence

<220>
<223> Binding domain of mouse factor VIII PTM

<400> 106
ctcgagctta cctgaactaa ttttttagaa tattaaaatc ctaagctttt atatctctat 60
ccctctatct tttgctctct atccaatttt tattaactta gactttaaaa agaaacttat 120
gagaaaaatt t 131

<210> 107
<211> 71
<212> DNA
<213> Artificial Sequence

<220>
<223> Spacer sequence of PTM

<400> 107
ccgcggaaca ttattataac gttgctcgaa tactaactgg tacctcttct ttttttttg 60

atatcctgca g 71

<210> 108
<211> 527
<212> DNA
<213> Artificial Sequence

<220>
<223> Chicken beta actin promoter sequences

<400> 108
ccatggtcga cgttagcccc acgttctgct tcactctccc catctccccc ccctccccac 60
ccccaatttt gtatttattt atttttaat tattttgtgc agcgatgggg gcgggggggg 120
gggggggcg cgcgccaggc ggggcggggc ggggcgaggg gcggggcggg gcgaggcgga 180
gaggtgcggc ggcagccaat cagagcggcg cgctccgaaa gttcctttta tcgcgaggcg 240
gcggcggcgg cggccctata aaaagcgaag cgcgcggcgg ccgggagtcg ctgcgacgct 300
gccttcgccc cgtgccaacc tccgcctcga gcttacctga actaattttt tagaatatta 360
aaatcctaag cttttatact cctatccctc tatcttttgc tctctatcca atttttatta 420
acttagactt taaaaagaaa cttatgagaa aaatttccgc ggaacattat tataacgttg 480
ctcgaatact aactggtacc tcttcttttt tttttgatat cctgcag 527

<210> 109
<211> 169
<212> DNA
<213> Artificial Sequence

<220>
<223> Sequence not included in construct

<400> 109
cgccgcctcg cgccgcccgc cccggctctg actgaccgcg ttactcccac aggtgagcgg 60
gcgggacggc ccttctcctc cgggctgtaa ttagcgcttg gtttaatcac ggcttgtttc 120
ttttctgtgg ctgcgtgaaa gccttgaggg gctccgggag gaattcgta 169

<210> 110
<211> 42
<212> DNA
<213> Artificial Sequence

<220>
<223> F8 PTM sequences

<400> 110
ggagtcgctg cgacgctgcc ttcgccccgt gccaacctcc gc 42

<210> 111
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> F8 PTM sequences

<400> 111
ctcgagcacc gatatcgtaa ct 22

<210> 112
<211> 53
<212> DNA
<213> Artificial Sequence

<220>
<223> Exon 26, Flag tag, stop sequences of mouse factor VIII PTM

<400> 112
gaggcccagc agcaatacga ctacaaggac gacgatgaca agtgagttta aac 53

<210> 113
<211> 71
<212> DNA
<213> Artificial Sequence

<220>
<223> Spacer sequences of human or canine factor VIII PTM

<400> 113
ccgcggaaca ttattataac gttgctcgaa tactaactgg tacctcttct ttttttttg 60
atatcctgca g 71